

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id
701032
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (25 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

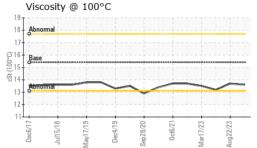
Fluid Condition

The condition of the oil is acceptable for the time in service.

				Sep2020 Oct2021 Mar2023	Aug2023			
SAMPLE INFORM	MOITAN	method	limit/base	current	history1	history2		
Sample Number		Client Info		WC0875079	GFL0091060	GFL0086510		
Sample Date		Client Info		28 Nov 2023	22 Aug 2023	12 Jul 2023		
Machine Age	hrs	Client Info		11043	90855	90855		
Oil Age	hrs	Client Info		559	0	0		
Oil Changed		Client Info		Changed	Changed	Changed		
Sample Status				NORMAL	NORMAL	NORMAL		
CONTAMINATION		method	limit/base	current	history1	history2		
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0		
Water		WC Method	>0.2	NEG	NEG	NEG		
Glycol		WC Method		NEG	NEG	NEG		
WEAR METALS		method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185(m)	>75	16	12	33		
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	1		
Nickel	ppm	ASTM D5185(m)	>4	<1	0	<1		
Titanium	ppm	ASTM D5185(m)	>2	0	0	0		
Silver	ppm	ASTM D5185(m)	>2	<1	0	<1		
Aluminum	ppm	ASTM D5185(m)	>15	3	2	5		
Lead	ppm	ASTM D5185(m)	>25	<1	0	0		
Copper	ppm	ASTM D5185(m)	>100	1	<1	1		
Tin	ppm	ASTM D5185(m)	>4	0	0	0		
Antimony	ppm	ASTM D5185(m)		0	0	0		
Vanadium	ppm	ASTM D5185(m)		0	0	0		
Beryllium	ppm	ASTM D5185(m)		0	0	0		
Cadmium	ppm	ASTM D5185(m)		0	0	0		
ADDITIVES		method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185(m)	0	2	6	5		
Barium	ppm	ASTM D5185(m)	0	<1	0	0		
Molybdenum	ppm	ASTM D5185(m)	60	58	58	60		
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1		
Magnesium	ppm	ASTM D5185(m)	1010	932	939	963		
Calcium	ppm	ASTM D5185(m)	1070	1024	1031	1045		
Phosphorus	ppm	ASTM D5185(m)	1150	957	1011	1005		
Zinc	ppm	ASTM D5185(m)	1270	1187	1149	1178		
Sulfur	ppm	ASTM D5185(m)	2060	2401	2465	2277		
Lithium	ppm	ASTM D5185(m)		<1	<1	<1		
CONTAMINANTS		method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185(m)	>25	8	5	11		
Sodium	ppm	ASTM D5185(m)		6	5	10		
Potassium	ppm	ASTM D5185(m)	>20	2	2	5		
INFRA-RED		method	limit/base	current	history1	history2		
Soot %	%	ASTM D7844*	>6	0.3	0.1	0.4		
Nitration	Abs/cm	ASTM D7624*	>20	9.9	7.1	11.0		
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.1	19.1	22.8		



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FLUID DEGRADA	method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.2	13.5	20.1	
VISUAL		method	limit/base	current	history1	history2	
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG	
Free Water	scalar	Visual*		NEG	NEG	NEG	
FLUID PROPER	method	limit/base	current	history1	history2		
Visc @ 100°C cSt		ASTM D7279(m)	15.4	13.6	13.7	13.2	
0.04.0110							

١	Visc @ 100°C		C	St	ASTM	D7279(m)	15.4		13.	6		13.	7		13.2	
	GRAPHS															
140	Iron (ppn	1)						60 T	ead	l (ppi	m)					
120	Severe								Severe							
100	+							40 -								
E 80	Abnormal		-					틆30-	Abnor	mal						
40		_				~		20 -								
20			-			/ · · · ·	-	10-								
0	Dec6/17	May17/19 -	Dec4/19 -	Sep28/20 -	0ct6/21	Mar17/23 +	Aug22/23	0 1	/ / / / / /	Jul15/18	May17/19	Dec4/19 -	Sep28/20	0ct6/21-	Mar17/23 -	Aug22/23
				Sep2	00	Marl	Aug2				_		Sep2	00	Mari	Aug2
30	Aluminum	n (ppn	n)					12 _T	Chro	miur	n (ppi	n)				
25	Severe						-		Severe							-
20	-							8 -								
튎 15	Abnormal								Abnor	mal						
10 5		~						2-								
0		_					_	₀ L		-		-			_	_
	Dec6/17-	May17/19	Dec4/19 -	Sep28/20	Oct6/21	Mar17/23	Aug22/23	F 10 2 - C	/ I /000a/	Jul15/18	May17/19	Dec4/19	Sep28/20	Oct6/21	Mar17/23	Aug22/23
	Copper (p			Se		Ž	An			⊸ on (p			S		Ĭ	An
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300 250	1								Severe							
돌 ²⁰⁰	Severe							40 - E 30 -								
150 100	Abnormal							20-	Abnon	mal						
50								10-	1						~	_
0	18	- GL	- 61	Z0 -	- 12	23	23	10	-	92	-61	19+	Z0+	21+	23	23
	Dec6/17 Jul15/18	May17/19	Dec4/19	Sep28/20	Oct6/21	Mar17/23	Aug22/23	9	Deco	Jul15/18	May17/19	Dec4/19	Sep28/20	Oct6/21	Mar17/23	Aug22/23
	Viscosity)°C						Soot	%						
19 18	Abnormal							7.0+	Severe							
17-								0.0	Abnon	mal		 				
() 16 () 001) 15 14	Base							5.0 - to 4.0 -								
₹3 14 13	Abnormal		_					3.0 -				i				
12								1.0								
11	Dec6/17+	May17/19 -	Dec4/19 +	Sep28/20 -	0ct6/21	Mar17/23 -	2/23	0.0	1 /0	Jul15/18	May17/19	Dec4/19 -	Sep28/20 -	0ct6/21	Mar17/23 -	Aug22/23
	Det Juli	May1	Dec	Sep2	00	Mari	Aug22/23	ć	iii	Jul	Mayl	Dec	Sep2	00	Marl	Aug2



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5694009 Test Package : MOB 1

: WC0875079 : 02600924

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Received Diagnosed Diagnostician : Wes Davis

: 05 Dec 2023 : 05 Dec 2023

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 217 - Aurora 14131 BAYVIEW AVE, AURORA YARD AURORA, ON

> CA L4G 0K6 Contact: Mike Havens MHavens@gflenv.com

Submitted By: Scott Ewan

F: (905)713-2445

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.